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09/804,262	03/13/2001	Mark Fimoff	7174B	9117

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Jack Kail
Zenith Electronics Corporation
2000 Millbrook Drive
Lincolnshire, IL 60069

EXAMINER	
NATNAEL, PAULOS M	

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2614	7

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/804,262	Applicant(s) FIMOFF, MARK	
	Examiner Paulos M. Natnael	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *78-101* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *78-101* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims **78-101** are rejected under 35 U.S.C. 103(a) as being unpatentable over Willming, U.S. Pat. No. 5,629,958.

Considering claim **78**, Willming discloses the following claimed subject matter, note;

a) receiving a current frame comprising a frame sync segment and a plurality of data segments, is met by the Receiver 40 in Fig.2a. (see Abstract)

c) processing the data in the first frame in response to the current map is met by the viterbi decoder 44 and 46, fig.2A

Except for;

b) wherein the current frame contains a current map indicating a location of data in a first frame;

d) a next map indicating a location of data in a second frame, and a count indicating the number of frames until the next map becomes the current map;

Regarding b), the reference of Willming does not specifically describe the current map indicating a location of data in a first frame. However, Willming discloses the Mapper and Sync Inserter 34, which encode the map (shown in Figs.3,5, and 23) and decoded by the receiver. (see also Abstract) Willming discloses "...during the frame sync interval, i.e. the first data segment of each frame, generator 66 and multiplexer 62 are initially operated for inserting frame sync symbols V.sub.0 -V.sub.671 into the first 672 symbol positions of the frame sync segment S.sub.0 as shown in FIG. 22. The last 12 symbols of the frame sync segment are inserted into the data stream by RAM 64 and comprise the last 12 symbols of the last data segment S312 of the previous frame (which had previously been written into RAM 64). Also, since the B inputs of multiplexers 46, 53 and 55 are selected during the frame sync interval, delay elements 48, 54 and 56 will assume the condition shown in FIG. 18 at the end of the segment sync interval of the next data segment S.sub.1, which will then be formed as previously described and as shown in FIG. 22." (col. 11, line 66 through col. 12 line 13).

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Willming by having a means or method to point the presence or location of data in the frame, because inserting frame sync symbols into the first 672 symbol positions of the frame sync entails knowing the exact location of the data, because, without such information, without knowing the location of the data, the system would have no way of retrieving the data and using the data, etc.

Regarding d), Willming doesn't specifically disclose a next map Indicating location of data in the second frame. However, it would have been obvious to the skilled in the art at the time the invention was made to implement the system of Willming because a next map would include the location of data in a second frame, since the location of data in current frame has already been mapped or indicated. (see also rejection 78 (b) above)

Considering claim **79**, the method of claim 78 wherein the current map, the next map, and the count are contained in the same segment of the current frame.

See rejection of claim 78 (a),(b) and (d).

Considering claim **80**, the method of claim 79 wherein the segment containing the current map, the next map, and the count comprises a data segment of the current frame, is met by the disclosure that "One of the data segments of each frame comprises a frame sync segment of which the last 12 symbols comprise a copy of the last 12 encoded data symbols of the preceding data segment." (see Abstract)

Considering claim **81**, the method of claim 78 further comprising: maintaining a count related to when the next map will change to the current map; and, counting down from the count based on frame times, is implied because without counter counting up or down as the data arrive at the receiver the processor or controller would not be able to maintain control.

Considering claim **82**, the method of claim 81 wherein the current map, the next map, and the count are contained in the same segment of the current frame.

See rejection of claim 80.

Considering claim **83**, the method of claim 82 wherein the segment containing the current map, the next map, and the count, comprises a data segment of the current frame.

See rejection of claim 80.

Considering claim **84**, the method of claim 78 wherein the first frame is the current frame, and wherein the second frame is a future frame, is implied because the second frame, naturally, comes or follows the first frame.

Considering claim **85**, Willming discloses the following claimed subject matter, note;
a) inserting a current map, a next map, and a count into the current frame, wherein the current map indicates a location of data in a first frame, is met by the mapper and sync inserter 34, fig.2A.
b) transmitting the current frame, is met by the transmitter, Fig.2A;

Except for;

C) wherein the next map indicates a location of data in a second frame, and wherein the count indicates the number of frames until the next map becomes the current map;

Regarding c), see rejection of claim 78(d).

Considering claim **86**, the method of claim 85 wherein the current map, the next map, and the count are contained in the same segment of the current frame.

See rejection of claim 79;

Considering claim **87**, the method of claim 86 wherein the segment containing the current map, the next map, and the count comprises a data segment of the current frame.

See rejection of claim 80.

Considering claim **88**, the method of claim 85 wherein the first frame is the current frame, and wherein the second frame is a future frame.

See rejection of claim 84.

Considering claim **89**, Willming discloses the following claimed subject matter, note; a) receiving a frame comprising first and second fields each having a frame sync segment and a plurality of data segments, is met by the Receiver in Fig.2a. (see Abstract)

b) wherein the first field contains a current map and count information, wherein the second field contains a next map and count information...is met by the Mapper and

Sync Inserter 34, which encode the map (shown in Figs.3,5, and 23) and decoded by the receiver. (see also Abstract)

c) processing data in the current frame in response to the current map, is met by viterbi decoder 44, fig.2a.

Except for;

d) wherein the current map indicates location of data in a current frame, wherein the next map indicates location of data in a future frame, and wherein the count information indicates the number of frames until the next map becomes the current map;

Regarding d), see rejection of claim 78(d).

Considering claim **90**, the method of claim 89 wherein the current map and count information are contained in the same segment of the first field, and wherein the next map and count information are contained in the same segment of the second field.

See rejection of claim 80.

Considering claim **91**, the method of claim 90 wherein the segment containing the current map and count information comprises a data segment, and wherein the segment containing the next map and count information comprises a data segment.

See rejection of claim 80.

Considering claim **92**, the method of claim 89 further comprising: maintaining a count related to when the next map will change to the current map; counting down from the count based on frame times.

See rejection of claim 81.

Considering claim **93**, the method of claim 92 wherein the current map and count information are contained in the same segment of the first field, and wherein the next map and count information are contained in the same segment
of the second field.

See rejection of claim 89;

Considering claim **94**, the method of claim 93 wherein the segment containing the current map and count information comprises a data segment, and wherein the segment containing the next map and count information comprises a data segment.

See rejection of claim 80.

Considering claim **95**, the method of claim 89 wherein the current map further indicates a coding rate for at least a portion of the data in the current frame, and wherein the next map further indicates a coding rate for at least a portion of the data in the future frame, is met by the disclosure that "Each k bits of an input data stream is converted to k+n output bits by a rate k/(k+n) state-dependent sequential convolution encoder 10. Each group of (k+n) output bits is then mapped to one of 2.sup.(k+n) symbols by a mapper

12." (col. 1, lines 28-33) and that "[u]ncoded bit Y1 from precoder 32a is applied to a rate 1/2, 4-state, systematic feedback convolution encoder 32b for conversion to output bits Z.sub.1 and Z.sub.0." (col. 4, lines 46-54)

Considering claim **96**, the method of claim 89 wherein the current map further indicates at least first and second coding rates corresponding to at least first and second portions of the data in the current frame, and wherein the next map further indicates at least first and second coding rates corresponding to at least first and second portions of the data in the future frame.

See rejection of claim 95.

Considering claim **97**, Willming discloses the following claimed subject matter, note;
a) inserting a current map and count information into the first field, wherein the current map indicates location of data in a current frame, inserting a next map and count information into the second field, is met by Mapper and sync Inserter 34, fig. 2A;
c) transmitting the first and second fields of the frame, is met by transmitter Fig.2A.

Except for;
b) wherein the next map indicates location of data in a future frame, and wherein the count information indicates the number of frames until the next map becomes the current map;

Regarding b), see rejection of claim 78 (d);

Considering claim **98**, the method of claim 97 wherein the current map and count information are contained in the same segment of the first field; and wherein the next map and count information are contained in the same segment of the second field.

See rejection of claim 80.

Considering claim **99**, the method of claim 97 wherein the segment containing the current map and count information comprises a data segment of the first field, and wherein the segment containing the next map and count information comprises a data segment of the second field.

See rejection of claim 80.

Considering claim **100**, the method of claim 97 wherein the current map further indicates a coding rate for at least a portion of the data in the current frame, and wherein the next map further indicates a coding rate for at least a portion of the data in the future frame.

See rejection of claim 95.

Considering claim **101**, the method of claim 97 wherein the current map further indicates at least first and second coding rates corresponding to at least first and second portions of the data in the current frame, and wherein the next map further

indicates at least first and second coding rates corresponding to at least first and second portions of the data in the future frame.

See rejection of claim 95.

Response to Arguments

3. Applicant's arguments filed January 29, 2004 have been fully considered but they are not persuasive. Response follows.

Applicant's Arguments

The Mapper and Sync Inserter 34 is not a current map and does not indicate the location of data in a frame. Moreover, the Mapper and Sync Inserter 34 is not a current map that is inserted into a current frame. The current map is a signal that is inserted into a frame. Willming does not disclose a current map, a next map, or a count as recited in independent claim 97...

Examiner's Response

The reference of Willming discloses a television signal formatted for transmission by arranging a plurality of encoded data symbols, representing a plurality of source data bytes, into successive data frames each comprising 313 data segments. One of the data segments of each frame comprises a frame sync segment of which the last 12 symbols comprise a copy of the last 12 encoded data symbols of the preceding data segment. The remaining segments of each frame comprise 12 interleaved

subsegments A-L, each subsegment comprising a plurality of encoded data symbols representing a contiguous group of sources data bytes, with the first symbol of each of the first 4 subsegments A-D comprising a predetermined segment sync symbol. The received signal is decoded by independently processing the symbols of each respective subsegment to derive estimations of the source data bytes. Willming teaches the Mapper and Sync Inserter 34 which encode the map data (shown in Figs.3,5, and 23). Willming discloses "...during the frame sync interval, i.e. the first data segment of each frame, generator 66 and multiplexer 62 are initially operated for inserting frame sync symbols V.sub.0 -V.sub.671 into the first 672 symbol positions of the frame sync segment S.sub.0 as shown in FIG. 22. The last 12 symbols of the frame sync segment are inserted into the data stream by RAM 64 and comprise the last 12 symbols of the last data segment S312 of the previous frame (which had previously been written into RAM 64). Also, since the B inputs of multiplexers 46, 53 and 55 are selected during the frame sync interval, delay elements 48, 54 and 56 will assume the condition shown in FIG. 18 at the end of the segment sync interval of the next data segment S.sub.1, which will then be formed as previously described and as shown in FIG. 22." (col. 11, line 66 through col. 12 line 13).

Hence, it would have been obvious to those with ordinary skill in the art to modify the system of Willming by having some means or method to point the presence or location of data in the frame (as the method of insertion of data in video signals is well known in the television art), for inserting frame sync symbols into the first 672 symbol positions of the frame sync entails knowing the exact location of the data, because,

without such information, without knowing the location of the data, the receiver or the system would have no way of retrieving the data and using the data, etc.

(see rejection of all the claims above as well)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 6:30am -3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Paulos Natnael
April 18, 2004

PAULOS M. NATNAEL
PATENT EXAMINER